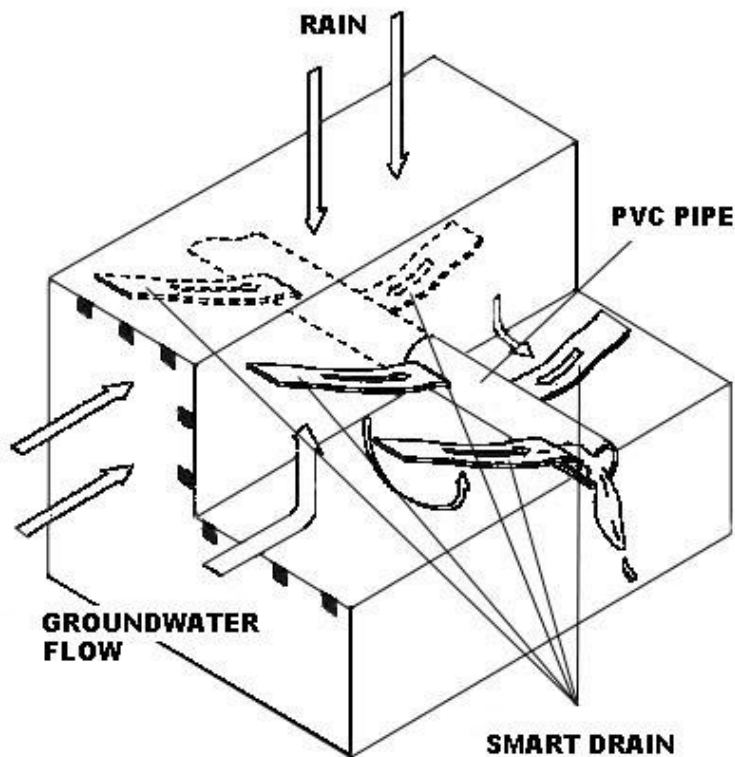


# ***SMART DRAIN***

***ADVANCED MICRO SIPHON DRAIN BELT*** 

## INSTALLATION INSTRUCTIONS



FOR HORIZONTAL INSTALLATIONS  
OF THE SMART DRAIN™  
SUBSURFACE DRAINAGE SYSTEM



# GENERAL GUIDELINES

1. Smart Drain™ is ALWAYS laid with its inlet (ribbed) side facing downward. LAYING SMART DRAIN WITH ITS INLET SIDE FACING UPWARDS WILL RESULT IN CLOGGING.

2. Always cut Smart Drain™ with a sharp razor. Scissors tear at the material and can smear the micro siphon outlets. Radial paper cutters work especially well.

2. To create a siphon effect, the Smart Drain™ end that enters into the collection pipe must be lower than the rest of the belt. We recommend a minimum of 4 inches of drop into the collection pipe.

3. The Smart Drain™ end that does not enter the collection pipe must be sealed with duct tape and/or PVC cement.

4. Do not lay Smart Drain™ directly on top of mud. Always lay it on a bed of sand. Placing Smart Drain™ directly on top of viscous mud can cause clogging and decreased performance.

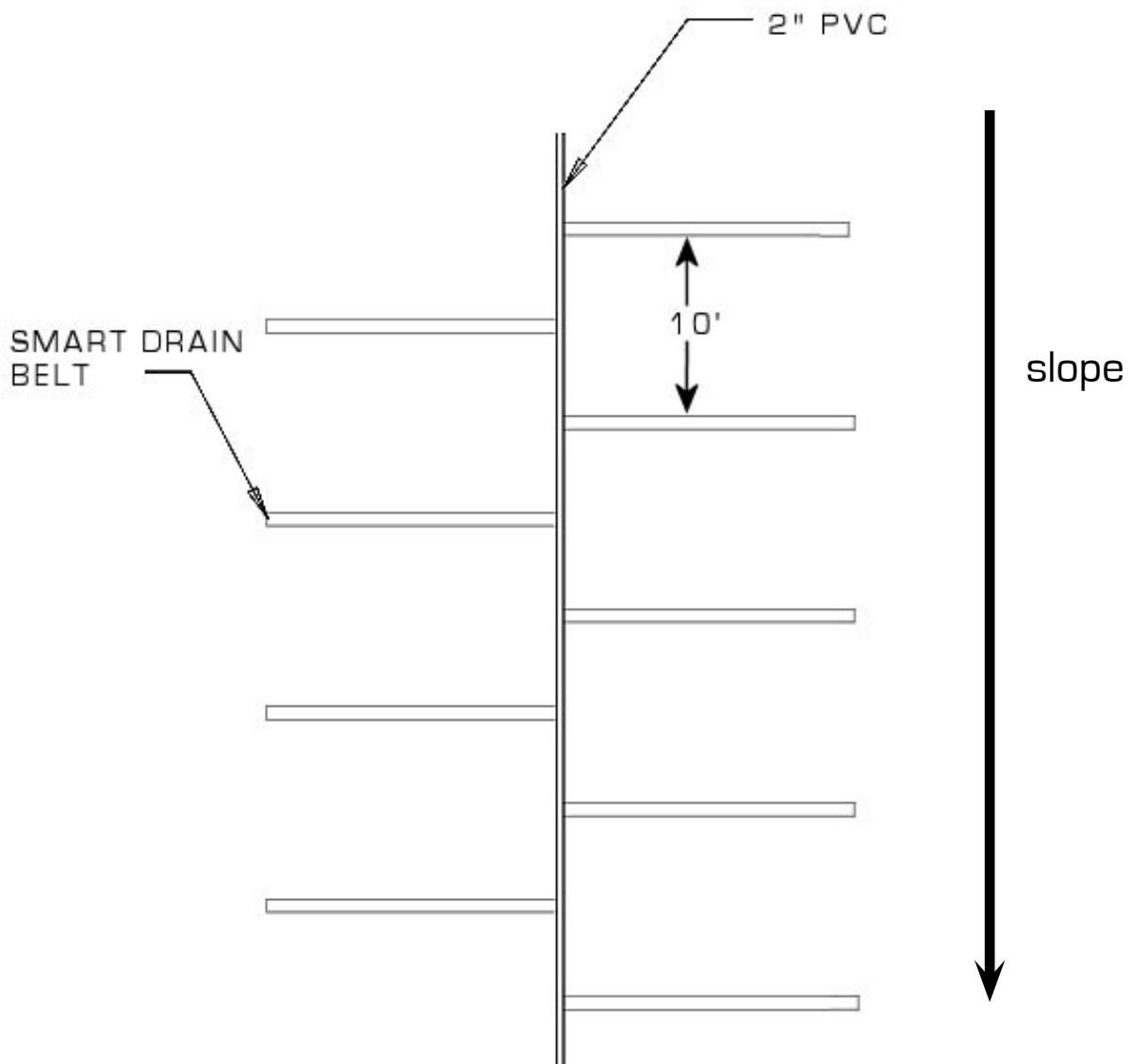
5. Lay Smart Drain™ on at least a 1% grade (3-5% recommended). Make sure that the Sand layer is compacted and will not settle.

6. Always use coarse (0.5-2mm grain size) and clean drainage sand. Fine and dirty sand mixtures will lead to decreased and slower performance. Washed concrete sand usually meets this specification and is usually widely available.

(Sieve specification - Everything passing the #10 sieve and no more than 10% passing the #40 sieve)

# SYSTEM LAYOUT

Smart Drain™ is laid out much like conventional systems. For most subsurface drainage installations, we recommend laying Smart Drain™ on alternating 5 foot centers, like the diagram below. It is always good practice to concentrate Smart Drain in very saturated areas and low spots to target problem areas. For very wet problem areas, shorten the centers to 3 foot alternating centers. This will ensure fast and efficient drainage.



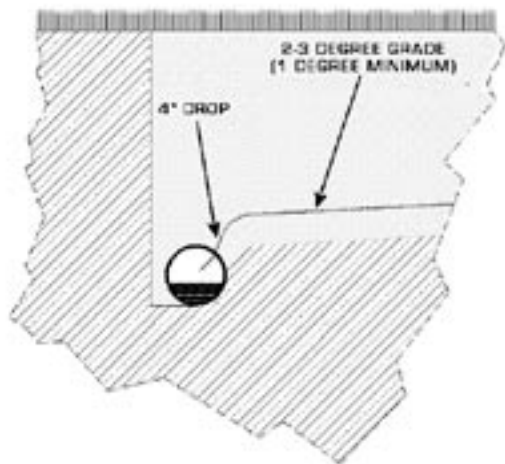
# TRENCHING

## 1. Trenching the PVC collection pipe trench/s:

- Trench the main collection pipe trench first, then dig trenches for the Smart Drain™ lateral belts.
- Trench only as wide as the PVC pipe that is being used for the collection pipe.
- Trench with at least a 1 percent drop along the bottom of the trench (2-3 percent will drain water faster).
- Begin the trench at a 12” depth on the upstream end.
- Sections of pipe that do not have Smart Drain™ connected to them can be backfilled with the excavated soil, but a continuous layer of sand in this trench enhances drainage and hydraulically links the entire system.

## 2. Trenching the Smart Drain™ belt lateral trenches:

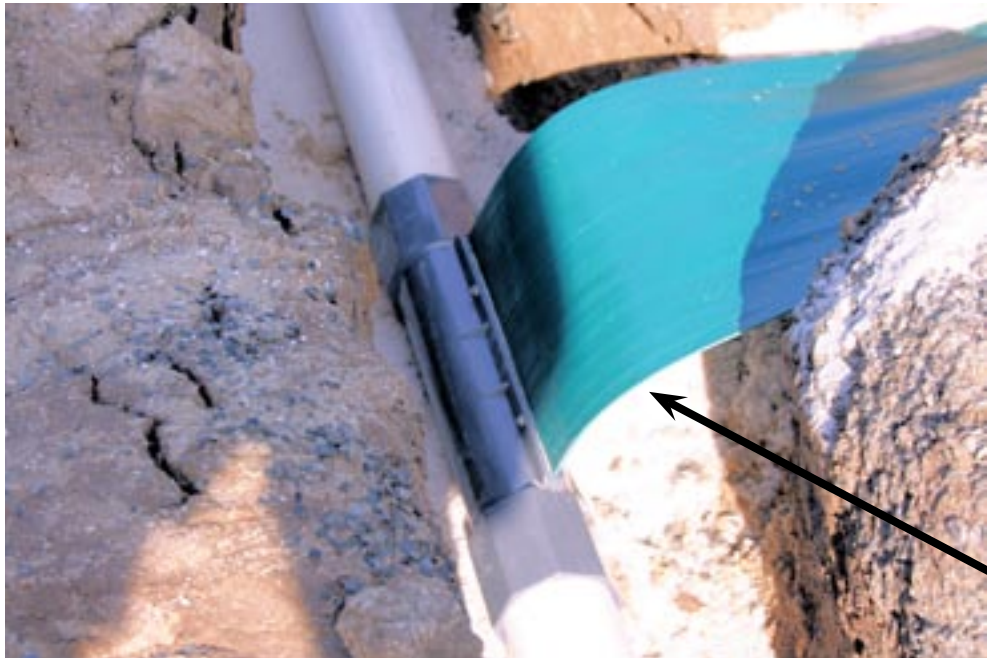
- Trench 10” - 12” wide for 8” belt and 6” wide for 4” belt.
- Trench at least 8” - 12” deep. The deeper the trench, the better the system will perform.
- Lay 1-2” of coarse drainage sand on the bottom of the excavated trenches, compact, then lay the Smart Drain™ belts on top at a 2-3 percent grade.
- Once the Smart Drain™ is layed out, fill in the trenches with more sand and fill the top 6 inches with a sand/peat mix (80% sand, 20% peat) if you want to turf over the trenches. If you lay sod, make sure it does not have a clay base.



# Connecting Drain Belt to PVC Pipe

First, using a circular hand grinder, with a 1/16" wheel, cut an 8" long slot where you want to insert the lateral belt. Position the pipe so the slots are at least a 45 degree angle of elevation. Then insert the Smart Drain™ belt into the pipe at least 1". Then, using PVC cement, seal the back side (smooth side) of the Smart Drain™ where it intersects with the PVC. Also seal any extra space at the sides of the slot. Then seal the other end of the belt with either PVC cement and/or duct tape (this will prevent sediment from entering the backside of the belt). Pack sand underneath the belt at the intersection with the pipe to make a smooth grade into the pipe that won't collapse when you backfill.

New Smart Drain™ couplers make slotting pipe unnecessary and installation a breeze!!!



Pack sand at intersection below belt.



Tape/Cement the end of the belt that is not inserted into the collection pipe.



Make sure to use plenty of sand.



FOR FURTHER  
QUESTIONS  
CALL US AT  
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OR BY EMAIL AT  
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